

Claims:

Please amend the claims as follows:

1. (amended) A crop harvesting header configured for attachment to the mobile frame of a harvesting machine, said header comprising:

a crop cutting assembly comprising a series of rotary cutters that are rotatable about individual, upright axes and that cooperatively define a laterally extending cutting zone along which crop material is severed from the ground by the cutting assembly;

a pair of laterally extending crop conditioning rolls cooperatively defining a nip

therebetween that is spaced upwardly and rearwardly from the cutting zone; and

a driveable crop conveying element having at least a portion thereof that moves upwardly and rearwardly between the cutting zone and the nip to convey crop cut by the cutting assembly toward the nip when the element is driven,

said conveying element comprising a laterally extending, rotatable conveying roller having an outer periphery defining the upwardly and rearwardly moveable portion of the conveying element,

said conveying roller being rotatable about a conveying roller axis,

said cutting zone being substantially planar and generally vertically aligned with the conveying roller axis.

3. (amended) A crop harvesting header as claimed in claim 2,

each of said crop conveying assemblies including a plurality of laterally spaced, [impeller cages] generally cylindrical impeller devices rotatable about individual, upright axes,

each of said impeller [cages] devices presenting a front moveable boundary that is spaced forwardly of the adjacent inwardly spaced impeller [cage] device.

4. (amended) A crop harvesting header as claimed in claim 3,
each outboard cutter section including a first cutter and an inwardly spaced second cutter,
said plurality of impeller [cages] devices including a first impeller [cage] device mounted
to the first cutter for rotational movement therewith, a second impeller [cage]
device mounted to the second cutter for rotational movement therewith, and an
intermediate impeller [cage] device suspended from the header framework between
the first and second impeller [cages] devices.

6. (amended) A crop harvesting header as claimed in claim 1,
[said conveying element comprising a laterally extending, rotatable conveying roller
having an outer periphery defining the upwardly and rearwardly moveable portion
of the conveying element]
further comprising header framework defining a laterally extending discharge opening
spaced rearwardly from the cutting zone, with the opening being configured to
receive cut crop from the series of cutters,
said cutting assembly projecting beyond the ends of the discharge opening to present a pair
of outboard cutter sections,
said conditioning rolls and said conveying roller being shorter than said cutting assembly
and disposed within and spanning across said discharge opening,
said conditioning rolls being in a stacked relationship to present an upper conditioning roll
and a lower conditioning roll,
said lower conditioning roll being rotatable about a lower conditioning roll axis,
said conveying roller being relatively smaller in diameter than the conditioning rolls and
said conveying roller axis being lower than the lower conditioning roll axis.

9. (amended) [A crop harvesting header as claimed in claim 6,]

A crop harvesting header configured for attachment to the mobile frame of a harvesting machine, said header comprising:

a crop cutting assembly comprising a series of rotary cutters that are rotatable about individual, upright axes and that cooperatively define a laterally extending cutting zone along which crop material is severed from the ground by the cutting assembly;
a pair of laterally extending crop conditioning rolls cooperatively defining a nip therebetween that is spaced upwardly and rearwardly from the cutting zone; and
a driveable crop conveying element having at least a portion thereof that moves upwardly and rearwardly between the cutting zone and the nip to convey crop cut by the cutting assembly toward the nip when the element is driven,

said conveying element comprising a laterally extending, rotatable conveying roller having an outer periphery defining the upwardly and rearwardly moveable portion of the conveying element,

said conveying roller having a relatively smaller diameter than the conditioning rolls.

12. (amended) In a crop harvesting machine having a mobile frame, the improvement comprising:

a crop cutting assembly comprising a series of rotary cutters that are rotatable about individual, upright axes and that cooperatively define a laterally extending cutting zone along which crop material is severed from the ground by the cutting assembly; a pair of laterally extending crop conditioning rolls cooperatively defining a nip

therebetween that is spaced upwardly and rearwardly from the cutting zone; and a driveable crop conveying element having at least a portion thereof that moves upwardly and rearwardly between the cutting [Zone] zone and the nip to convey crop cut by the cutting assembly toward the nip when the element is driven,

said conveying element comprising a laterally extending, rotatable conveying roller having an outer periphery defining the upwardly and rearwardly moveable portion of the conveying element,

said conveying roller being rotatable about a conveying roller axis,

said cutting zone being substantially planar and generally vertically aligned with the conveying roller axis.

14. (amended) In a crop harvesting machine as claimed in claim 13,

each of said crop conveying assemblies including a plurality of laterally spaced, [impeller cages] generally cylindrical impeller devices rotatable about individual, upright axes,

each of said impeller [cages] devices presenting a front moveable boundary that is spaced forwardly of the adjacent inwardly spaced impeller [cage] device.

15. (amended) In a crop harvesting machine as claimed in claim 14,

each outboard cutter section including a first cutter and an inwardly spaced second cutter, said plurality of [impeller cages] impeller devices including a first impeller [cage] device mounted to the first cutter for rotational movement therewith, a second impeller [cage] device mounted to the second cutter for rotational movement therewith, and an intermediate impeller [cage] device suspended from the framework between the first and second impeller [cages] devices.

17. (amended) In a crop harvesting machine as claimed in claim 12,

[said conveying element comprising a laterally extending, rotatable conveying roller
having an outer periphery defining the upwardly and rearwardly moveable portion
of the conveying element]

further comprising framework defining a laterally extending discharge opening spaced
rearwardly from the cutting zone, with the opening being configured to receive cut
crop from the series of cutters,

said cutting assembly projecting beyond the ends of the discharge opening to present a pair
of outboard cutter sections,

said conditioning rolls and said conveying roller being shorter than said cutting assembly
and disposed within and spanning across said discharge opening,

said conditioning rolls being in a stacked relationship to present an upper conditioning roll
and a lower conditioning roll,

said lower conditioning roll being rotatable about a lower conditioning roll axis,

said conveying roller being relatively smaller in diameter than the conditioning rolls and
said conveying roller axis being lower than the lower conditioning roll axis.

20. (amended) [In a crop harvesting machine as claimed in claim 17,]

In a crop harvesting machine having a mobile frame, the improvement comprising:

a crop cutting assembly comprising a series of rotary cutters that are rotatable about

individual, upright axes and that cooperatively define a laterally extending cutting

zone along which crop material is severed from the ground by the cutting assembly;

a pair of laterally extending crop conditioning rolls cooperatively defining a nip

therebetween that is spaced upwardly and rearwardly from the cutting zone; and

a driveable crop conveying element having at least a portion thereof that moves upwardly

and rearwardly between the cutting zone and the nip to convey crop cut by the

cutting assembly toward the nip when the element is driven,

said conveying element comprising a laterally extending, rotatable conveying roller having

an outer periphery defining the upwardly and rearwardly moveable portion of the

conveying element,

said conveying roller having a relatively smaller diameter than the conditioning rolls.

23. (amended) A crop harvesting machine comprising:

a mobile frame; and

a harvesting header supported on the frame for harvesting crop as the frame moves across a field, said header including

a cutter bed extending across the path of travel of the frame and including a series of rotary cutters rotatable about individual, upright axes to define a cutting zone,

header framework defining a laterally extending discharge opening spaced rearwardly from the cutter bed, with the opening being configured to receive cut crop from the series of cutters,

a pair of crop conditioning rolls spanning the discharge opening and defining a nip therebetween that is spaced upwardly and rearwardly from the cutter bed, and

a laterally extending crop conveying roller located between the cutter bed and the nip,

said conveying roller being rotatable in a direction to move crop from the cutter bed toward the nip,

said conveying roller being rotatable about a conveying roller axis,

said cutting zone being substantially planar and generally vertically aligned with the conveying roller axis.

25. (amended) [A crop harvesting machine as claimed in claim 23,]

A crop harvesting machine comprising:

a mobile frame; and

a harvesting header supported on the frame for harvesting crop as the frame moves across a field, said header including

a cutter bed extending across the path of travel of the frame and including a series of rotary cutters rotatable about individual, upright axes,

header framework defining a laterally extending discharge opening spaced rearwardly from the cutter bed, with the opening being configured to receive cut crop from the series of cutters,

a pair of crop conditioning rolls spanning the discharge opening and defining a nip therebetween that is spaced upwardly and rearwardly from the cutter bed,
and

a laterally extending crop conveying roller located between the cutter bed and the nip,

said conveying roller being rotatable in a direction to move crop from the cutter bed toward the nip,

said series of rotary cutters including two sets of outboard cutters, with each of the sets being located adjacent an end of the cutter bed and substantially outboard of the discharge opening; and

a pair of crop conveying assemblies, each disposed over a respective one of the sets of outboard cutters for conveying crop cut by the respective one of the sets of outboard cutters rearwardly and inwardly to the discharge opening.

26. (amended) A crop harvesting machine as claimed in claim 25,
each of said crop conveying assemblies including a plurality of laterally spaced, [impeller
cages] generally cylindrical impeller devices rotatable about individual, upright
axes,
each of said impeller [cages] devices presenting a front moveable boundary that is spaced
forwardly of the adjacent inwardly spaced impeller [cage] device.

27. (amended) A crop harvesting machine as claimed in claim 26,
each set of outboard cutters including a first cutter and an inwardly spaced second cutter,
said plurality of impeller [cages] devices including a first impeller [cage] device mounted
to the first cutter for rotational movement therewith, a second impeller [cage]
device mounted to the second cutter for rotational movement therewith, and an
intermediate impeller [cage] device suspended from the framework between the
first and second impeller [cages] devices.

30. (amended) [A crop harvesting machine as claimed in claim 23]

A crop harvesting machine comprising:

a mobile frame; and

a harvesting header supported on the frame for harvesting crop as the frame moves across a
field, said header including

a cutter bed extending across the path of travel of the frame and including a series
of rotary cutters rotatable about individual, upright axes,

header framework defining a laterally extending discharge opening spaced
rearwardly from the cutter bed, with the opening being configured to
receive cut crop from the series of cutters,

a pair of crop conditioning rolls spanning the discharge opening and defining a nip
therebetween that is spaced upwardly and rearwardly from the cutter bed,
and

a laterally extending crop conveying roller located between the cutter bed and the
nip,

said conveying roller being rotatable in a direction to move crop from the cutter bed toward the nip,

said conveying roller having a relatively smaller diameter than the conditioning rolls.

Please add the following new claims:

33. A crop harvesting machine as claimed in claim 30,
said cutter bed projecting laterally outwardly beyond opposite ends of the discharge opening to present two sets of outboard cutters at opposite ends of the cutter bed that are disposed substantially outboard of the discharge opening; and
a pair of crop conveying assemblies at opposite ends of the cutter bed for assisting in directing crop severed by the outboard cutters laterally inwardly generally toward the discharge opening,
each of said crop conveying assemblies comprising a plurality of laterally spaced, generally cylindrical impeller devices disposed higher than the outboard cutters and rotatable inwardly about individual, upright axes.

34. A crop harvesting machine as claimed in claim 33,
each plurality of impeller devices including an outer impeller device having a front inwardly movable boundary and an inner impeller device having a front inwardly movable boundary,
the inwardly movable boundary of each outer impeller device being spaced forwardly of the inwardly movable boundary of the corresponding inner impeller device.

35. A crop harvesting machine as claimed in claim 34,
each plurality of impeller devices further including an intermediate impeller device
disposed generally between said outer impeller device and said inner impeller
device,
each intermediate impeller device having a front inwardly movable boundary,
the inwardly movable boundary of each outer impeller device being spaced forwardly of
the inwardly movable boundary of the corresponding intermediate impeller device.

36. A crop harvesting machine as claimed in claim 33,
each set of outboard cutters including an outer cutter and an inner cutter,
said plurality of impeller devices including an outer impeller device rotatable about the
same axis of rotation as the corresponding outer cutter and an inner impeller device
rotatable about the same axis of rotation as the corresponding inner cutter.

37. A crop harvesting machine as claimed in claim 33,
each of said impeller devices comprising a cage having a plurality of circumferentially
spaced uprights.

38. A crop harvesting machine as claimed in claim 33,
said conveying roller and said conditioning rolls being shorter than the cutter bed and
being disposed within said discharge opening in spanning relationship thereto.

39. A crop harvesting machine as claimed in claim 38,
said conditioning rolls being in a stacked relationship to present an upper conditioning roll
and a lower conditioning roll,
said lower conditioning roll having an axis of rotation,
said conveying roller having an axis of rotation disposed lower than the axis of rotation of
the lower conditioning roll.

40. A crop harvesting machine comprising:
a mobile frame; and
a harvesting header supported on the frame for harvesting crop as the frame moves across a
field, said header including
a cutter bed extending across the path of travel of the frame and including a series
of rotary cutters rotatable about individual, upright axes,
header framework defining a laterally extending discharge opening spaced
rearwardly from the cutter bed, with the opening being configured to
receive cut crop from the series of cutters,
a pair of crop conditioning rolls spanning the discharge opening and defining a nip
therebetween that is spaced upwardly and rearwardly from the cutter bed,
and
a laterally extending crop conveying roller located between the cutter bed and the
nip,
said conveying roller being rotatable in a direction to move crop from the cutter
bed toward the nip,
said conveying roller being disposed within said discharge opening and spanning
the same.

41. A crop harvesting machine as claimed in claim 40,
said conveying roller having a relatively smaller diameter than the conditioning rolls.

42. A crop harvesting machine as claimed in claim 41,
said conditioning rolls being in a stacked relationship to present an upper conditioning roll
and a lower conditioning roll,
said lower conditioning roll being rotatable about a lower conditioning roll axis,
said conveying roller being rotatable about a conveying roller axis that is lower than the
lower conditioning roll axis.

43. A crop harvesting machine as claimed in claim 42,
said cutter bed defining a substantially planar cutting zone,
said conveying roller axis being generally vertically aligned with the cutting zone.

44. A crop harvesting machine as claimed in claim 40,
said cutter bed projecting laterally outwardly beyond opposite ends of the discharge
opening to present two sets of outboard cutters at opposite ends of the cutter bed
that are disposed substantially outboard of the discharge opening.

45. A crop harvesting machine as claimed in claim 44,
further comprising a pair of crop conveying assemblies at opposite ends of the cutter bed
for assisting in directing crop severed by the outboard cutters laterally inwardly
generally toward the discharge opening,
each of said crop conveying assemblies comprising a plurality of laterally spaced,
generally cylindrical impeller devices disposed higher than the outboard cutters,
and rotatable inwardly about individual, upright axes.

46. A crop harvesting machine as claimed in claim 45,
each plurality of impeller devices including an outer impeller device having a front
inwardly movable boundary and an inner impeller device having a front inwardly
movable boundary,
the inwardly movable boundary of each outer impeller device being spaced forwardly of
the inwardly movable boundary of the corresponding inner impeller device.

47. A crop harvesting machine as claimed in claim 46,
each plurality of impeller devices further including an intermediate impeller device
disposed generally between said outer impeller device and said inner impeller
device,
each intermediate impeller device having a front inwardly movable boundary,
the inwardly movable boundary of each outer impeller device being spaced forwardly of
the inwardly movable boundary of the corresponding intermediate impeller device.

48. A crop harvesting machine as claimed in claim 46,
each set of outboard cutters including an outer cutter and an inner cutter,
said plurality of impeller devices including an outer impeller device rotatable about the
same axis of rotation as the corresponding outer cutter and an inner impeller device
rotatable about the same axis of rotation as the corresponding inner cutter.

49. A crop harvesting machine as claimed in claim 46,
each of said impeller devices comprising a cage having a plurality of circumferentially
spaced uprights.